

REMARKS

Claims 1-21 are pending in this application. Claims 1 and 12 are amended herein.

Applicant respectfully requests reconsideration of the claims in view of the following remarks.

Claims 1-4, 6, 8-15, 17 and 20-21 are rejected under 35 U.S.C. §103(a) as being unpatentable over Kurjanowicz, et al., US 6,894,941 B2, in view of Feurle, et al., US 2003/0043674 A1. This rejection is hereby respectfully traversed.

Similarly, Claims 5 and 16 are rejected under 35 U.S.C. §103(a) as being unpatentable over Kurjanowicz, US 6,778,457 B1 (Examiner indicated the '457 patent as "Kurjanowicz", but this number is to "Burgan", however the remarks appear directed to "Kurjanowicz") and Feurle, et al., US 2003/0043674 A1, in view of Klein, US 6,838,331 B2. This rejection is also hereby respectfully traversed.

Claims 7 and 18-19 are rejected under 35 U.S.C. §103(a) as being unpatentable over Kurjanowicz, US 6,778,457 B1 (Examiner indicated the '457 patent as "Kurjanowicz", but this number is to "Burgan", however the remarks appear directed to "Kurjanowicz") and Feurle et al., US 2003/0043674 A1, in view of Caulkins, US 6,473,355 B2. This rejection is also hereby respectfully traversed.

Applicant has amended each of the independent claims 1, 12 herein to recite particular aspects of the inventions disclosed in the present application that are not shown, taught or suggested by the various combinations of references relied upon by the Examiner.

Particularly with respect to Claim 1, the Examiner relied upon Kurjanowicz et al in view of Feurle et al. to reject the claim as obvious under 35 U.S.C. §103. Kurjanowicz teaches a DRAM with two modes that may be dynamically changed, and the mode change determines

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whether a first or a second refresh interval is observed. The Examiner then admits that the primary reference does not show a first and a second portion of DRAM cells that permit refreshing at differing rates. The Examiner then adds Feurle (a reference commonly owned with the present application) in combination, and remarks that Feurle teaches the first and second portions and refreshing the portions at differing rates.

Applicant submits that neither reference nor the combination disclose the novel method recited in Claim 1 as amended herein, and particularly, that neither reference nor the combination shows, teaches or suggests the steps of “... accessing said stored information to determine when and to refresh said first portion at said first rate and to determine when and to refresh said second portion at said second rate.”

Feurle teaches a controller for sending refresh cycles in a cyclical fashion to subportions of a DRAM, where each subportion includes a subcircuit. The subcircuit, on receiving a refresh sent at a regular interval, may interrupt the refresh and not execute it based on stated information about the refresh requirements of the particular subportion. (See paragraph 46, and Figure 1). Thus each subportion requires a subcircuit, which, in response to a refresh sent at a regular interval, may refuse the refresh already sent to the subportion. (See paragraph 47, and Figure 2).

In contrast, Applicant's method as recited in Claim 1 provides stored information identifying first and second portions having first and second permitted refresh rates. (See page 4, paragraphs 14-15). This information is accessed to determine when to send the refresh to the respective portions. (See page 6, paragraph 23). Thus the method disclosed and claimed is different from and distinguished from the proposed combination of the dual mode DRAM of Kurjanowicz (which admittedly does not include portions that permit refresh at a first and a

second rate), and Feurle which refreshes portions at a regular, cyclical rate but which includes additional circuits in each portion that may interrupt a refresh already sent to the portion.

Accordingly, Applicant believes that as amended, Claim 1 is allowable over the prior art of record and the obviousness rejection under 35 U.S.C. §103. Reconsideration is therefore requested.

Claims 2-4, 6 and 8-11 were similarly rejected over this combination of references. These dependent claims recite additional steps on the method recited in Claim 1, and therefore incorporate the allowable method of the parent claim. Accordingly, reconsideration and allowance are requested for each of these claims.

Claim 5 is rejected over the combination of Kurjanowicz and Feurle in view of Klein. The Examiner remarks that the Klein reference adds the additional limitation of Claim 5, e.g. an active mode and a sleep mode.

Applicant submits that Claim 5 also depends from and incorporates the allowable methods of Claim 1, and that the Klein reference taken in combination with the other two relied upon references also does not show, teach or suggest the method steps not disclosed in the other references as described above. Accordingly Claim 5 is also believed to be allowable over the rejection. Reconsideration and allowance are requested.

Claim 7 likewise depends from Claim 1 and was rejected over the combination of Kurjanowicz and Feurle, in view of Caulkins. The Examiner remarked that Caulkins discloses the additional limitations of Claim 7, e.g. storing information in a non-volatile memory. Applicant respectfully submits however that Claim 7 also depends from and incorporates the allowable methods of Claim 1, and that Caulkins in combination with the other relied upon references also does not show, teach or suggest the method steps not disclosed in the primary

references as described above. Accordingly Claim 7 is also believed to be allowable over the rejection. Reconsideration and allowance are requested.

Claim 12 is an independent claim reciting a novel integrated circuit, which has also been amended herein to particularly recite features not shown, taught or suggested by the prior art of record. Claim 12 was also rejected over the combination of Kurjanowicz in view of Feurle.

Applicant submits that the elements now recited in Claim 12 are not disclosed by either of these references alone or taken in combination. As amended Claim 12 recites in part "...a controller operable to access said stored information from said electronic means to determine when and to refresh said first portion at said first rate and to determine when and to refresh said second portion at said second rate."

As argued above with respect to Claim 1, neither of these references discloses the elements of Applicant's claimed invention, particularly including the clause recited above. Accordingly, reconsideration and allowance are requested for Claim 12.

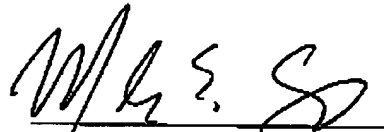
Claims 13-21 were similarly rejected and are apparatus claims depending from and incorporating the elements of Claim 12. As argued for dependent Claims 2-11 described above with respect to their parent claim 1, each of these dependent claims also incorporate allowable elements from the parent claim 12 which are not shown, taught or suggested by the combinations of references relied upon by the Examiner. Accordingly, reconsideration and allowance are respectfully requested.

Applicant believes that this preliminary amendment and the remarks made above are fully responsive to the Final Office Action mailed February 24, 2006 in the parent application. Applicant further submits that the claims are now in condition for allowance, and therefore respectfully requests that this application be passed to issue. No new matter has been added by this amendment. If the Examiner should have any questions, please contact Applicant's attorney at the number listed below. No fee is believed due in connection with this filing. However, in the event that there are any fees due, please charge the same, or credit any overpayment, to Deposit Account No. 50-1065.

Respectfully submitted,

May 23, 2006

Date



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